COMINT/DF HF-6 GHz Systems

Delivering SIGINT-Based Complete Order of Battle for Land, Sea, and Air

Technical Specifications

COMINT/DF for UAS

Frequency Band:	30-1200MHz (option 30 to 3000MHz)
Types of Detected Signals:	FM, WFM, NFM, AM, CW, SSB
Signal Bandwidth:	16 filters, 100 Hz to 340 kHz
DF Accuracy:	3° RMS Azimuth Coverage: 360°
Power Consumption:	<250 W
Weight:	<35 kg

COMINT/DF for Transport and Mission Aircraft

Frequency Range:	20-3000 MHz
Search and Scan Bandwidth:	2.5, 5, 10, 20 MHz
Search and Scan Rate:	10 GHz/sec
Min. Signal Duration:	2msec
Azimuth Coverage:	360°
DF Accuracy:	2.5° RMS-onboard, typical
Power Consumption:	<2500 W
Weight:	<200 kg

Man-Pack COMINT/DF

Frequency Band:	25-3000MHz
Shock and Vibration:	MIL-STD-810 (except PDA)
Antenna Type:	90° front sector (homing)
Bandwidth Resolution:	25 kHz typical
Max. Signal at Input (no damage)	+20dBm
Power Consumption:	40W (excluding PDA)
Weight:	14 kg excluding vest

Vehicular, Stationary & Portable COMINT/DF

Frequency Range:	30 MHz-3 GHz (6 GHz optional)
Azimuth Coverage:	360°
Accuracy in Azimuth:	2° - 3.5° RMS typical
Scanning Speed:	2000 channel/sec

Naval Tactical COMINT/DF

Frequency Range:	HF band: 1.6 to 30 MHz V/UHF band: 30 to 3000 MHz, SHF band: 3 to 6 GHz (optional)
Operational DF Accuracy:	HF band: 5° RMS typical V/UHF band: 2° RMS typical
DF Result:	Resolution of 0.1° with quality factor
Instantaneous Processing BW (IBW):	HF band: according to pre-selector sub-octave filters, from 0.8 to 8 MHz V/UHF band: selectable 20 or 40 MHz
Resolution Bandwidth (RBW):	HF band: 0.78, 1.58, 3.125 KHz V/UHF band: 6.25, 12.5, 25, 50 KHz
DF/Scan Speed: HF band:	2 GHz/Sec V/UHF band: 20 GHz/Sec
Spatial Coverage:	Omni-directional in azimuth and ±15° coverage in elevation
Max RF Power Input:	+20 dBm

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Elbit Systems™ EW and SIGINT - Elisra

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Overview

Elbit Systems EW & SIGINT-Elisra's COMINT/DF (Direction Finding) solutions overcome the challenges of highly dense electromagnetic environments, effectively coping with sophisticated advanced communications systems in the entire frequency range. The systems deliver reliable land, sea, and air coverage - serving both strategic and tactical objectives.

Advanced components - signal demodulators, signal classifiers, digital wideband receivers covering the frequency range of HF-6 GHz, and activity detectors - are fully integrated with each other ensuring smart, fast interception, identification, and detection of the most sophisticated signals, spanning the full frequency band.

The exceptionally adaptable systems are suitable for installation on manned and unmanned airborne platforms, ground mobile stations, stationary sites, portable man-packs, and marine platforms including surface vessels and submarines.

The company's advanced COMINT/DF solutions are operational and field-proven, and can be integrated with COMJAM capabilities according to customers' needs.

Airborne Systems

COMINT/DF SYSTEMS FOR UAS
The company offers operational and battle-proven UAS-specific COMINT/DF systems, designed as modular building blocks, capable of tackling various types of communications systems and able to fit any UAS. These systems utilize wideband multi-purpose receivers and meet the requirements of any EW/SIGINT payload, offering tactical intelligence reception in real time over wide rural and urban areas, and enabling digital audio-recording.

SKYFIX/DF
A compact, lightweight, high-precision COMINT and COMINT/DF system covering the frequency band of 30 MHz – 3 GHz.

SKYFIX Cellular
A cellular phone surveillance and location system, capable of monitoring, recording, and transmitting GSM phone communications, including both conversations and SMS.

SKYFIX Satellite
A satellite phone surveillance and location system delivering wide coverage reception of satellite communications transmissions.

COMINT/DF System for Transport and Mission Aircraft

ACVS-200-WB
A compact wideband airborne COMINT/DF system that intercepts, locates voice and data radio emissions, determining direction of arrival (DOA) and location. The system is capable of handling the most modern and advanced VHF/UHF communications signals and can serve as part of a SIGINT system - or as a standalone COMINT and Direction and Location Finder, with monitoring and signal analysis capabilities.

Ground Systems

The company provides EW intelligence solutions for all levels of command - Strategic, Divisional, and Tactical - with combined capabilities of C2, COMINT/DF, ECM, and ELINT, enabling each level of command to operate both as a standalone and as part of an integrated multilevel system. These solutions provide intelligence capabilities, classification processing, and advanced analysis for all levels - delivering full tactical mobility and autonomous real-time responses.

Man-Pack COMINT/DF System
This lightweight, small footprint, portable COMINT/DF system enables exceptionally precise interception and excellent DF accuracy, covering the entire operational frequency band from 25 to 3000 MHz. Featuring wide-spectrum scanning, the system detects, locates, and monitors signals of interest.

TDF - 2300 for Mobile and Stationary Applications
A full-featured, compact and lightweight, high-precision system, covers the 20 MHz to 3 GHz frequency range (optional up to 6 GHz), using the correlative interferometer technique and a wide aperture precision antenna array. With outstanding DF accuracy and fast DOA integration time, the operational and battle-proven system monitors and classifies selected transmissions, while simultaneously performing spectrum scanning and DF calculations.

Maritime Systems

NATACS 2020 - Next Generation Naval Tactical COMINT/DF System
This next generation Naval EW System delivers a full naval picture and is capable of coping with advanced agile frequency communications radios. The opertional and battle-proven system - equipped with ultra-fast wideband receivers and DF Systems with outstanding scanning rates - enables handling of extremely dense electromagnetic environments in the HF/VHF/UHF/HUHF frequency bands, characterized by frequency hopping, burst, and other agile transmissions.
The system's COMINT antenna can be integrated with an ESM antenna, allowing maximum utilization, as well as enabling significant space savings. The system can be adapted to customer requirements and is suitable for surface vessels as well as submarines.